Fig.1

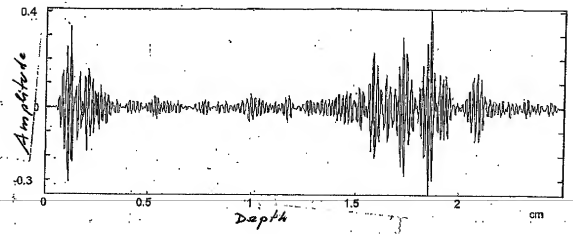


Fig.2

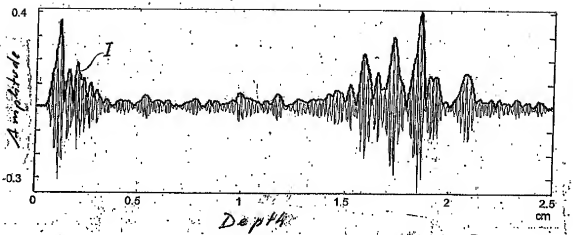
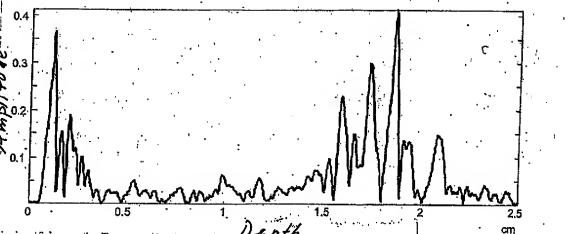


Fig.3



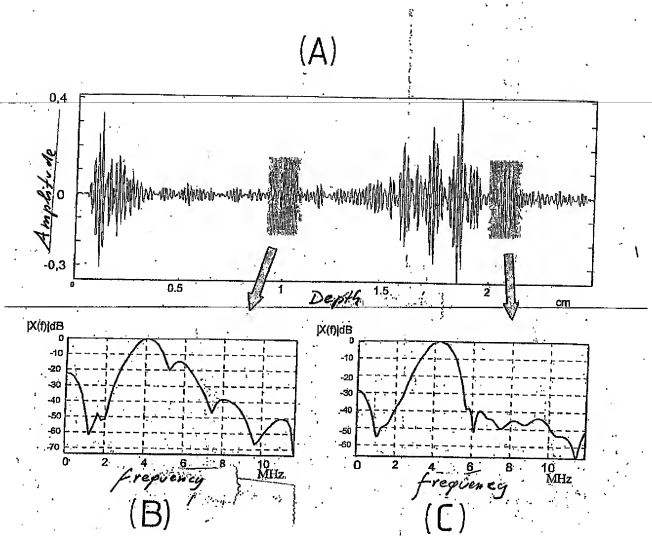
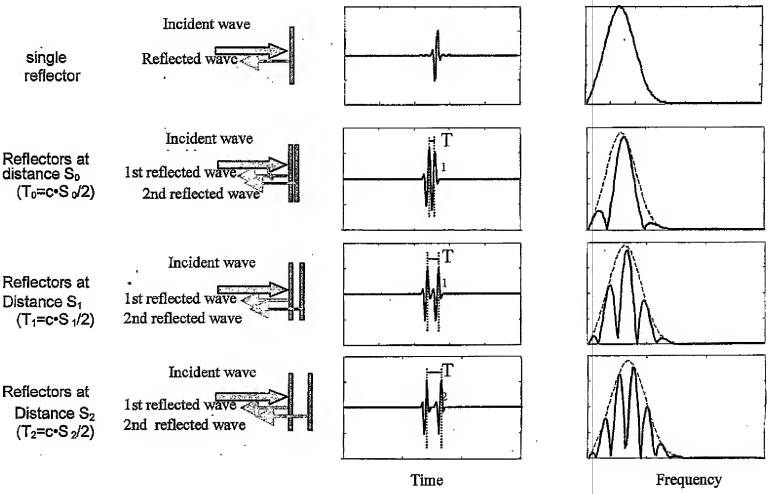

(A)
0,4
0
-0,3
Amplitude
0.5
1
Depth
1.5
2
cm
|X(f)|dB
0
-10
-20
-30
-40
-50
-60
-70
0
2
4
6
8
10
MHz
frequency
(B)
|X(f)|dB
0
-10
-20
-30
-40
-50
-60
0
2
4
6
8
10
MHz
frequency
(C)

Fig. 4

Fig.4D


single reflector
Incident wave
Reflected wave
Reflectors at distance S_0 ($T_0=c*S_0/2$)
Incident wave
1st reflected wave
2nd reflected wave
T
1
Reflectors at Distance S_1 ($T_1=c*S_1/2$)
Incident wave
1st reflected wave
2nd reflected wave
T
1
Reflectors at Distance S_2 ($T_2=c*S_2/2$)
Incident wave
1st reflected wave
2nd reflected wave
T
2
Time
Frequency

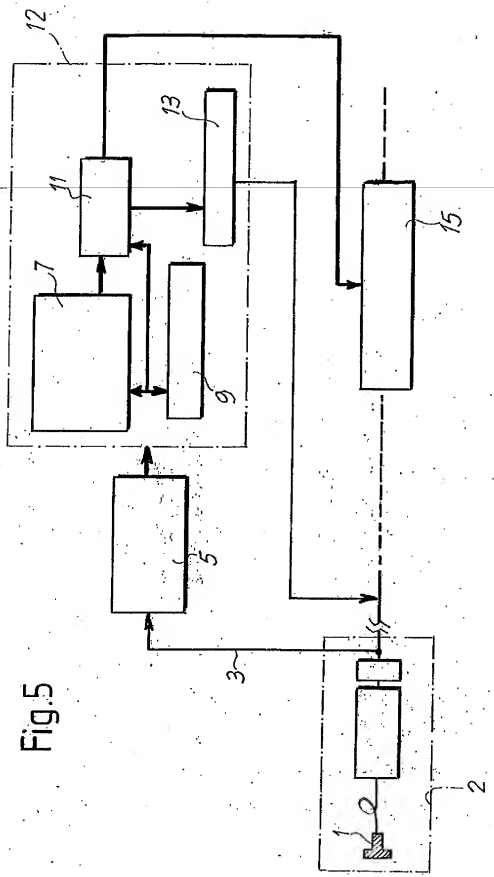


Fig.5

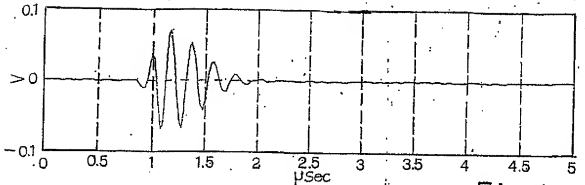


Fig. 6A

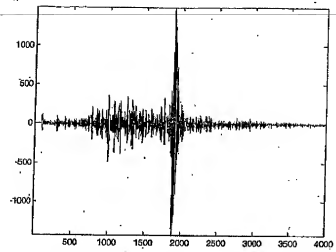


Fig.6B

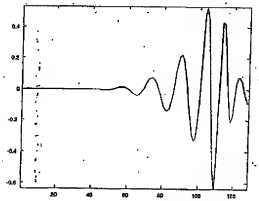


Fig.6C

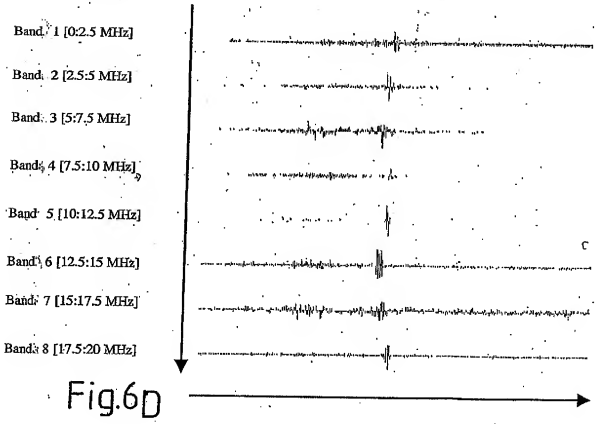


Fig.6D

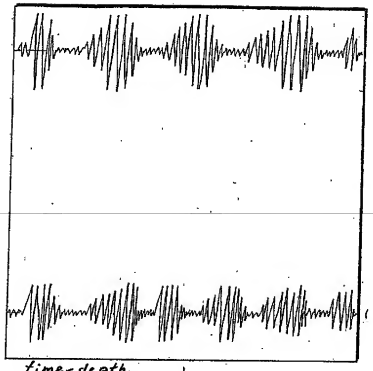

track 1
INPUT FRAME
track n
time-depth

Fig. 7A

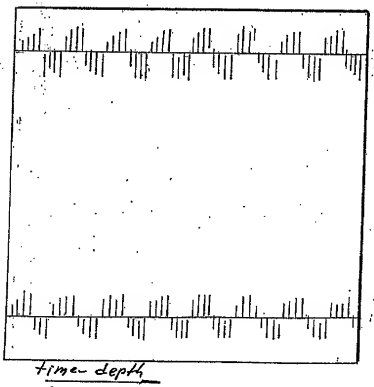
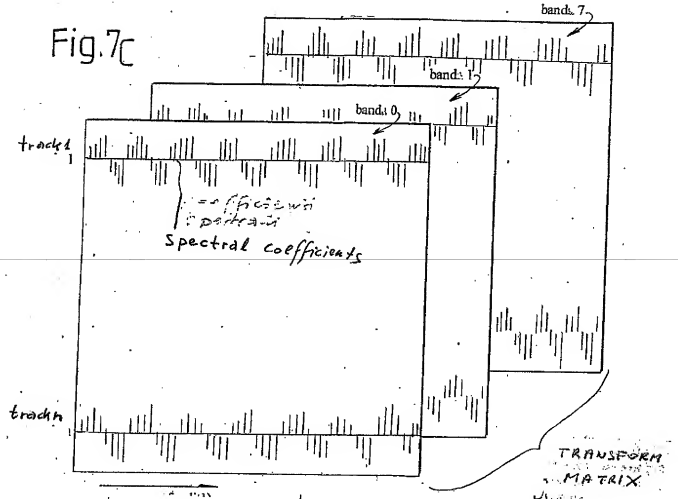

track 1
DIGITALIZED FRAME
track n
time-depth

Fig. 7B

Fig.7C


bands 7
bands 1
bands 0
track 1
track n
Spectral coefficients
TRANSFORM MATRIX
time - depth

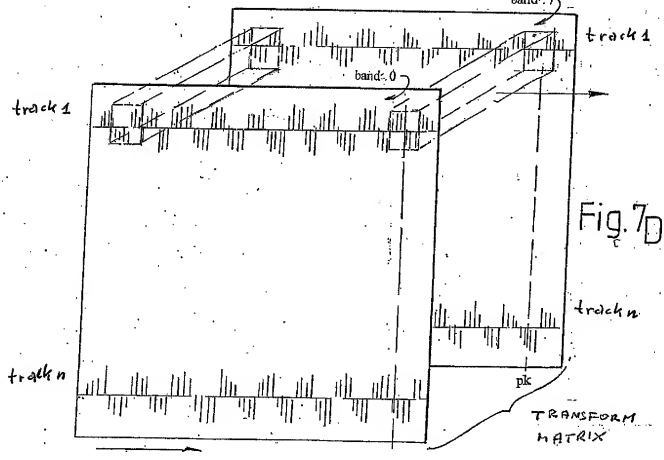
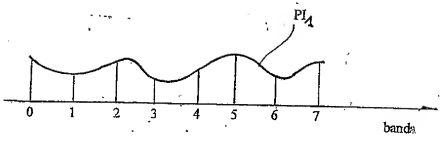
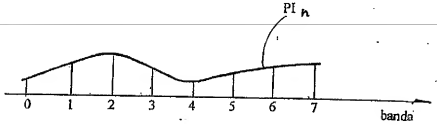

band: 7
track 1
bands 0
track 1
track n
track n
pk
TRANSFORM MATRIX

Fig.7D

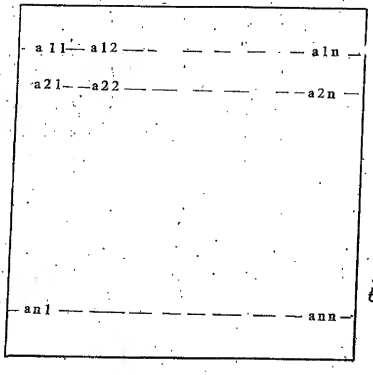


track 1

Fig.7E



track n



track 1

track 2

LOCAL ESTIMATORS MATRIX

track n

Fig.7F

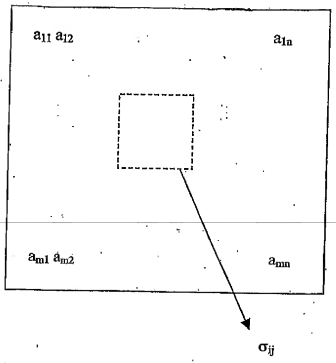
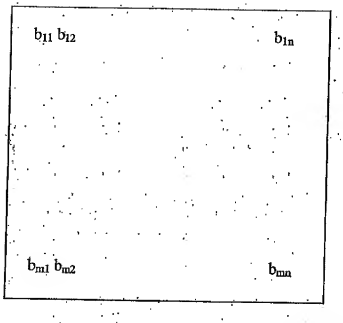


Fig.7G

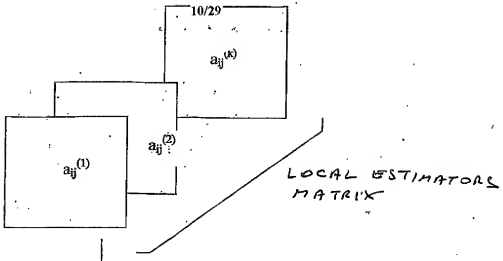
LOCAL ESTIMATORS MATRIX

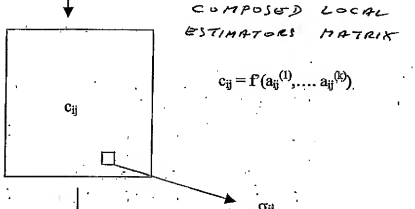


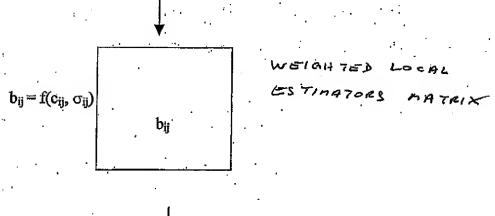
bij = f(aij, σij)

Fig.7H

WEIGHTED LOCAL ESTIMATORS MATRIX


$a_{ij}^{(k)}$
$a_{ij}^{(2)}$
$a_{ij}^{(1)}$
LOCAL ESTIMATORS MATRIX


COMPOSED LOCAL ESTIMATORS MATRIX
$c_{ij} = f(a_{ij}^{(1)}, \ldots a_{ij}^{(k)})$
c_{ij}
σ_{ij}


WEIGHTED LOCAL ESTIMATORS MATRIX
$b_{ij} = f(c_{ij}, \sigma_{ij})$
b_{ij}

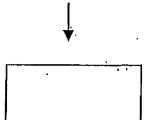
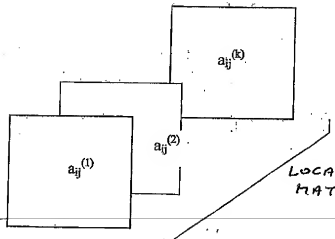
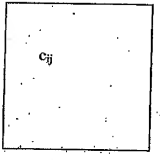

POPULATION MATRIX
f_{ij}

Fig.7J

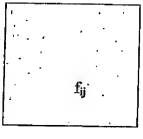




$c_{ij} = f(a_{ij}^{(1)}, \ldots a_{ij}^{(k)})$

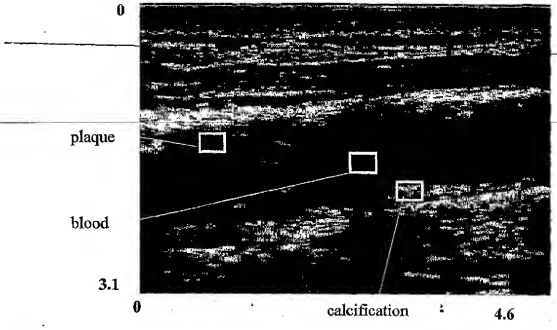
COMPOSED LOCAL ESTIMATORS MATRIX

Fig.7K



POPULATION MATRIX

Fig.8A



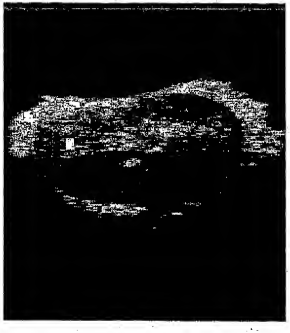


Fig.8B

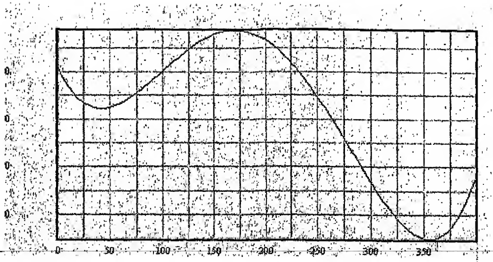


Fig.9A

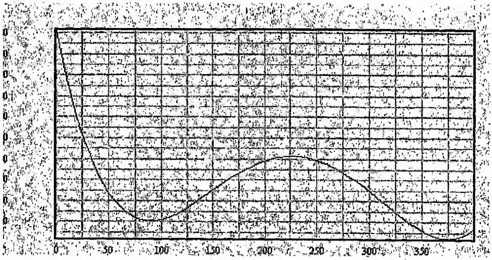


Fig.9B

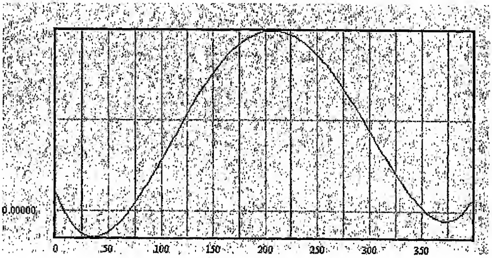
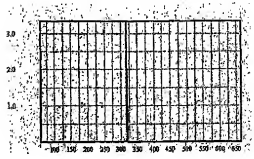
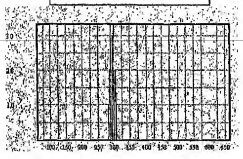


Fig.9C

Coefficient A_0

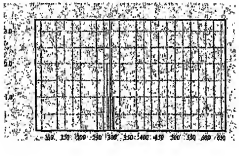


Coefficient A_1



Coefficient A_2

Coefficient A_3



Coefficient A_4

Fig.10

Fig.11

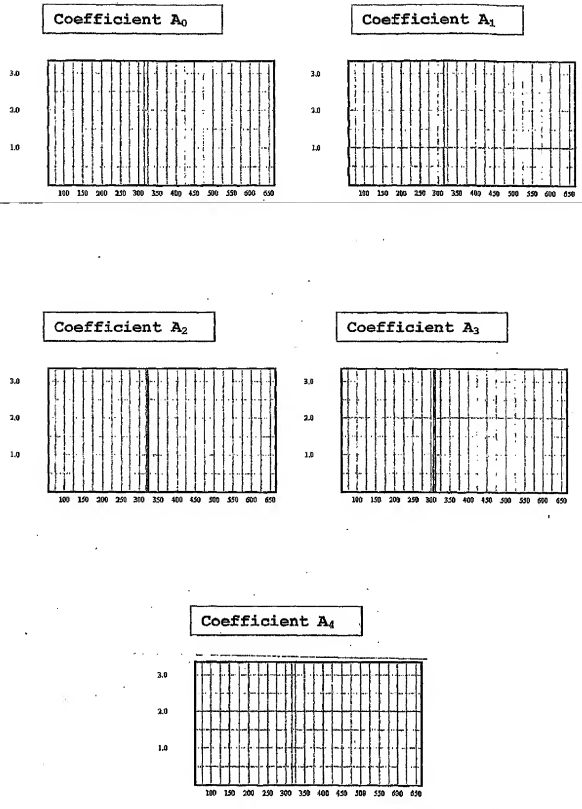
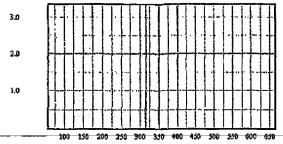
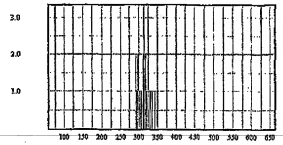

Coefficient A_0
Coefficient A_1
Coefficient A_2
Coefficient A_3
Coefficient A_4
3.0
2.0
1.0
100 150 200 250 300 350 400 450 500 550 600 650

Fig.12

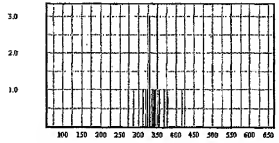
Coefficient A_0



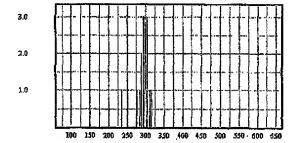
Coefficient A_1



Coefficient A_2



Coefficient A_3



Coefficient A_4

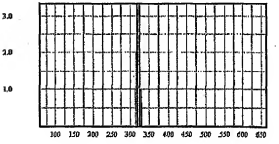


Fig.13A

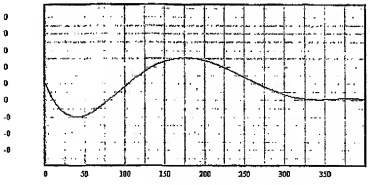


Fig.13B

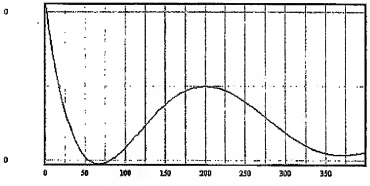


Fig.13C

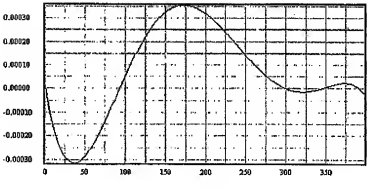


Fig.14

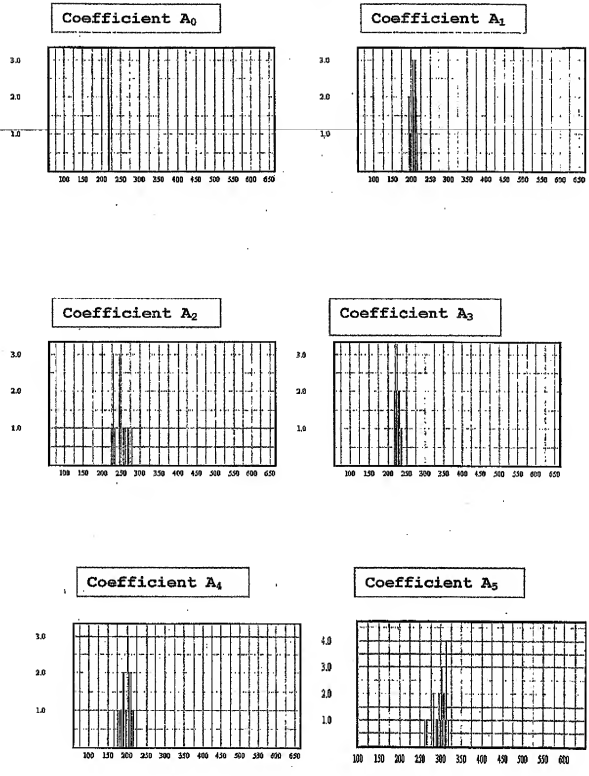
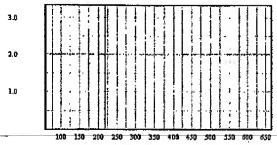
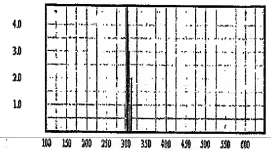

Coefficient A0
Coefficient A1
Coefficient A2
Coefficient A3
Coefficient A4
Coefficient A5

Fig.15

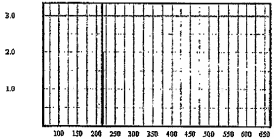
Coefficient A_0



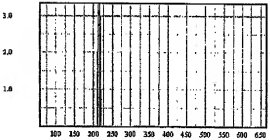
Coefficient A_1



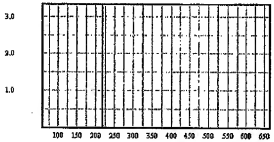
Coefficient A_2



Coefficient A_3



Coefficient A_4



CoefficienteA_5

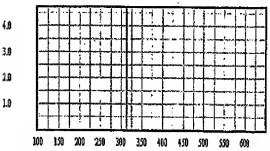
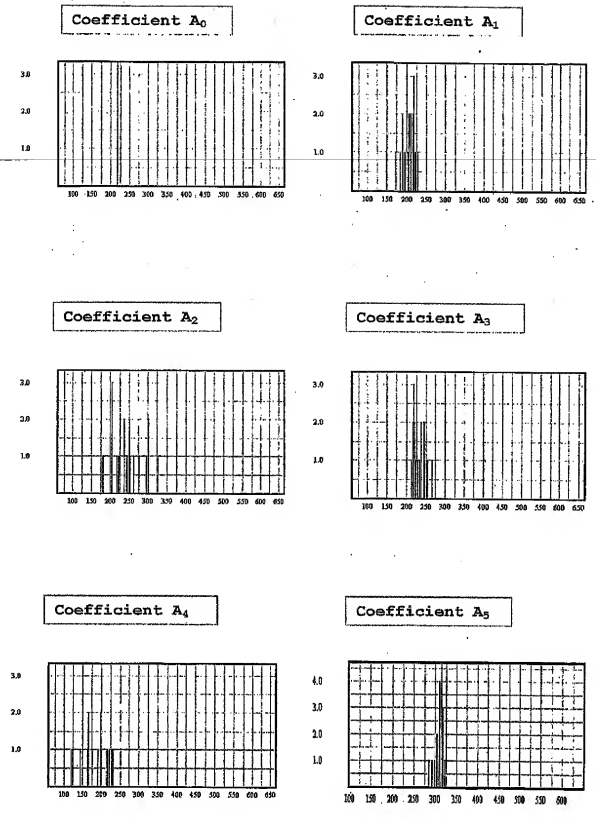
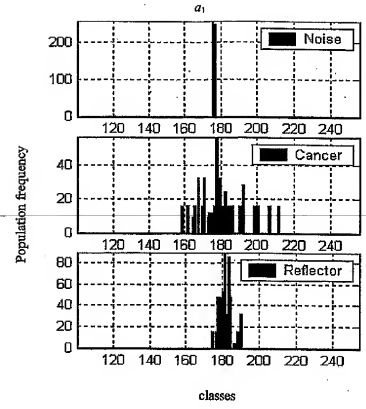


Fig.16


Coefficient A_0
Coefficient A_1
Coefficient A_2
Coefficient A_3
Coefficient A_4
Coefficient A_5


a_1
Noise
Cancer
Reflector
Population frequency
classes

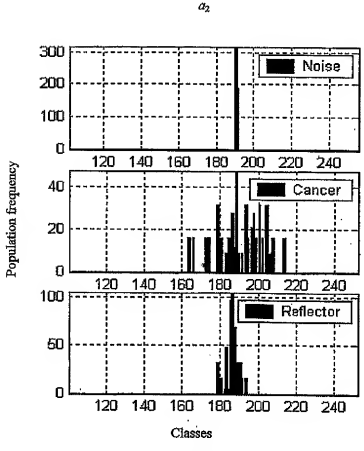
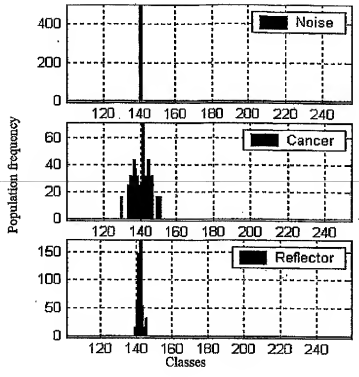

a_2
Noise
Cancer
Reflector
Population frequency
Classes

Fig.17A

a_3


Noise
Cancer
Reflector
Population frequency
Classes
400
200
0
60
40
20
150
100
50
120 140 160 180 200 220 240

a_4

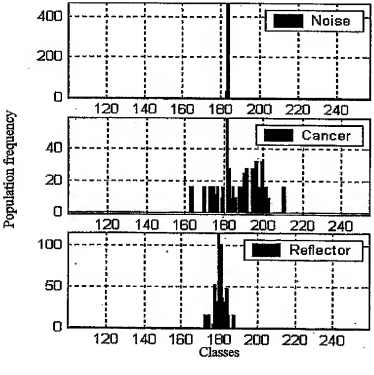
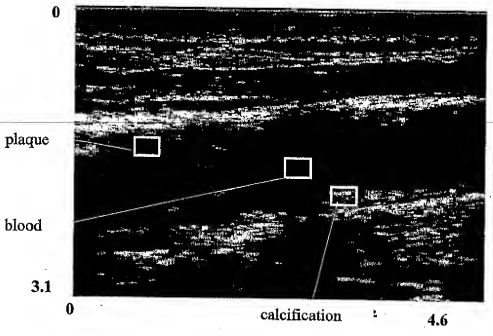

Noise
Cancer
Reflector
Population frequency
Classes
400
200
0
40
20
100
50
120 140 160 180 200 220 240

Fig.17B

Fig.17C



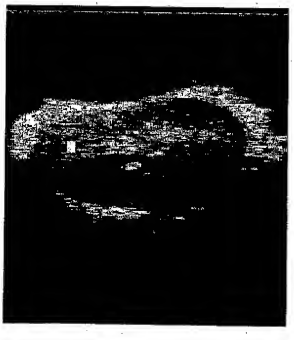


Fig.17D

DISCRETE WAVELET DECOMPOSITION

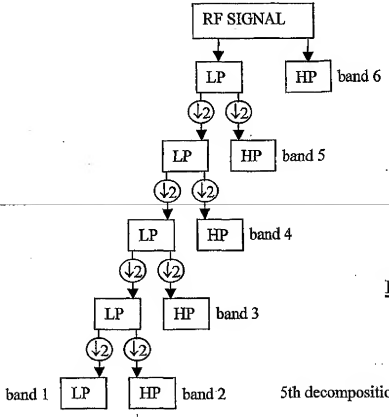


Fig.18A

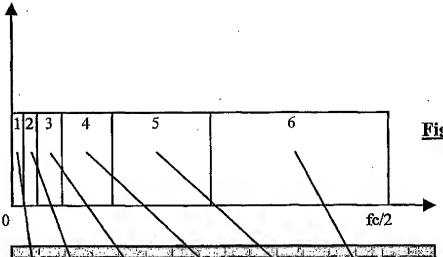
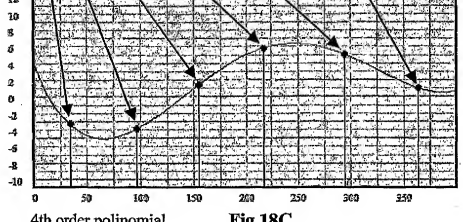


Fig.18B



4th order polinomial

Fig.18C

Plaque polinomial and histograms

Polinomial cursor and histogram window

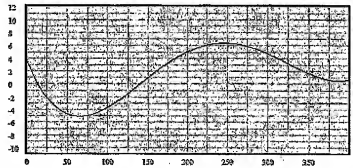
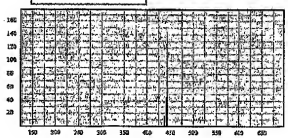
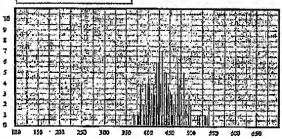


Fig.19

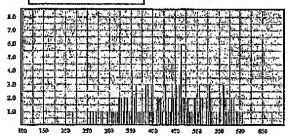
Coefficient A_0



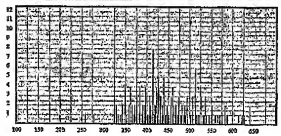
Coefficient A_1



Coefficient A_2

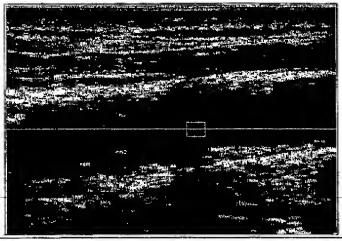


Coefficient A_3



Coefficient A_4

Blood polinomial and histograms



Polinomial cursor and histogram window

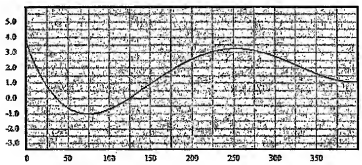
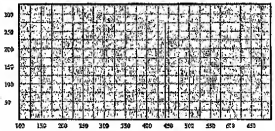
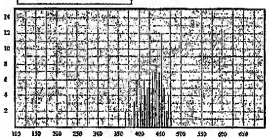


Fig.20

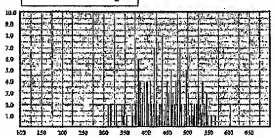
Coefficient A_0



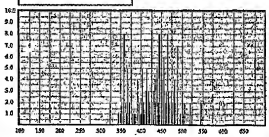
Coefficient A_1



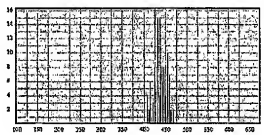
Coefficient A_2



Coefficient A_3



Coefficient A_4



Calcification polinomial and histograms

Polinomial cursor and histogram window

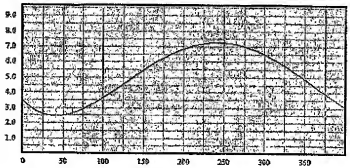
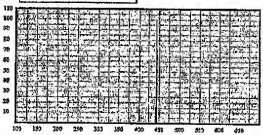
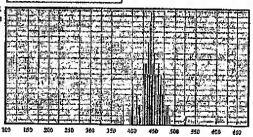


Fig.21

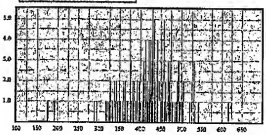
Coefficient A_0



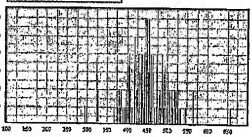
Coefficient A_1



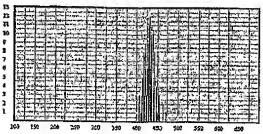
Coefficient A_2



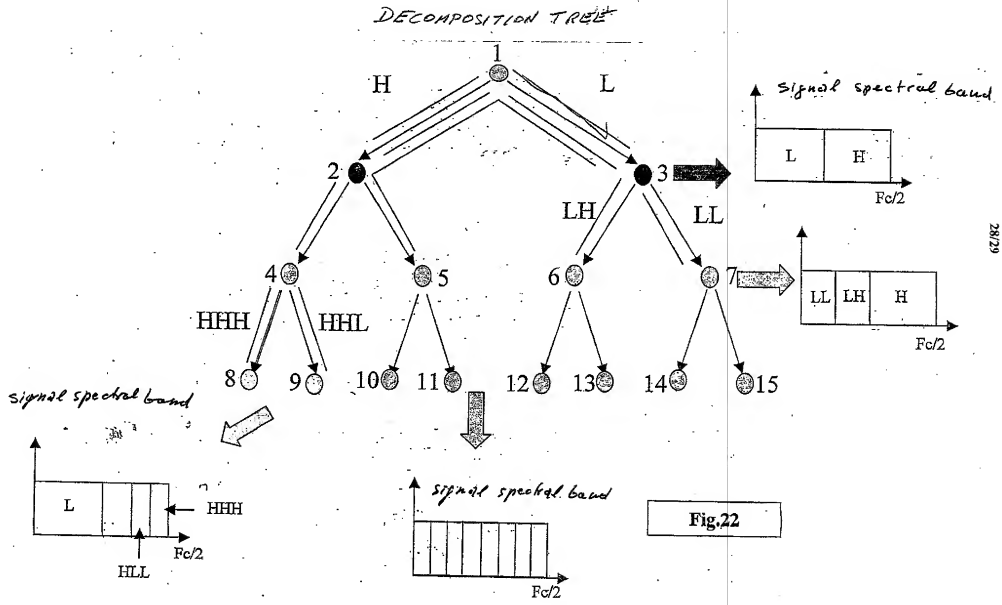
Coefficient A_3



Coefficient A_4



DWPT TRANSFORM



Fig,22

Coefficient A_0
6000
4000
2000
0
40
60
80
100
Coefficient A_1
(A)
Coefficient A_0
6000
4000
2000
0
40
50
60
70
Coefficient A_2
(B)

Fig.23